POPULATION TODAY

Vol 17 No 4 April 1989

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FROM THE EDITOR'S DESK

Concern over the ozone layer in our atmosphere has increased with new findings that suggest its deterioration has been more rapid than previously imagined. The less ozone to filter out the sun, the more the sun's ultraviolet rays will damage life on earth.

International conferences have been held to confer about the problem and how to respond to it (a prime cause is considered to be pollution from industrial chlorofluorocarbons). And clearly, ozone is a sobering topic.

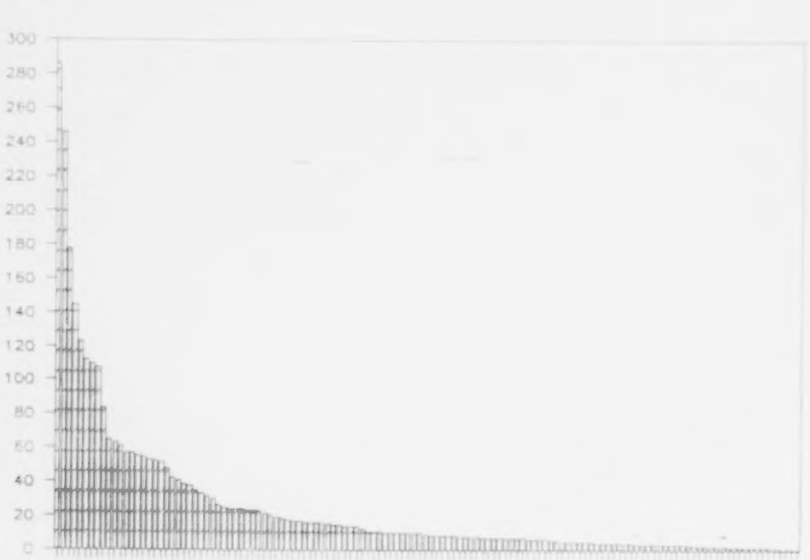
To us, one of its most interesting aspects is population-grounded. If the ozone layer becomes a source of acute public anxiety, you may expect migration a-plenty. Those people who used to sport "Life's A Beach" bumper stickers would be the first to scurry off for new abodes underneath the glowering February skies of western New York state, the better to appreciate Buffalonian vistas of snow clouds drifting off Lake Erie to block the garish sun.

There's no indication that a stampede to the Frost Belt is currently in sight. But history has shown that population trends have a will all their own. And every decade or two there's a demographic surprise – not ozone hopefully – that confounds the conventional wisdom of extrapolating today's trends (e.g. the rush to the Ultraviolet – or Sun Belt) endlessly into tomorrow.

— Art Haupt

SPEAKING GRAPHICALLY

Little, Big



The graph above shows the distribution of country population size around the world, ranging from the USSR (Number 3 in population) to Mauritania (Number 131).

Numbers 1 and 2 – China and India – have been omitted simply for visual clarity, just take our word that their bars tower over every other nation. For the same reason, the graph shows no country with less than 1 million, even though there are approximately 82 of these entities.

Among countries with 1 million population or more, the median size is 10.5 million, the average is 38 million.

Source: PRB's 1988 *World Population Data Sheet*.

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Census's TIGER Now Unleashed

One year from this month, the U.S.'s decennial census will take place.

A total of 470,000 people will have worked on the census at some time during the process. Some 484 temporary field offices, 13 regional census centers, and seven processing centers will be involved, at a total cost of at least $2.6 billion.

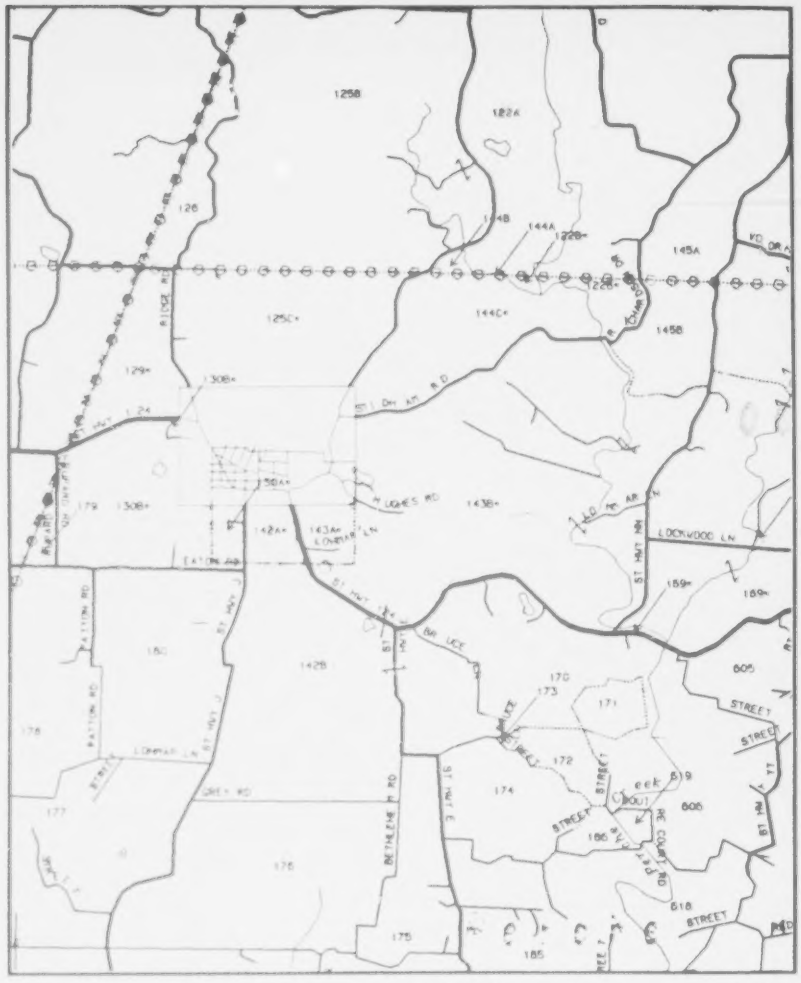
Action of the Tiger

There are many innovations since the 1980 Census, including new methods of streamlining the processing of some 100 million questionnaires. One crucial foundation of next year's Census is already being put in place: TIGER, the national "map" that will be used as the basis of both enumerating the country during the census and generating the data reports that result.

Sales to the public started in February 1989 of prototypes of TIGER/Line files. Now 35 states are available ($175 each plus $15 per county). The entire U.S., Puerto Rico, and outlying areas will be covered.

What is TIGER? It is essentially a map of the U.S. – including all census-significant addresses – that has been shoehorned into a mainframe computer. Or to put it another way, it's a unified data base of all the census-relevant geographic nodes in the U.S. These numbers and their relationships can be churned out as a list of addresses, as a map of a particular area, or as a report of data for that area.

Facilitating the decennial census itself, TIGER (which stands for Topologically Integrated Encoding and Referencing system) will make possible for the first time the automation of mapping and related geographic activities essential for the conduct of the census. Mailing lists will be entered and checked against the parameters of TIGER. Enumerators will carry TIGER maps when they go out to check non-responses to mailed-out questionnaires. (The decennial census is 90 percent a mail-out, mail-back operation.) Later on, when the data are released, TIGER will make possible the organized dissemination of data.



This is an example of a computer-generated TIGER map, showing street and physical features, as well as political and census boundaries.

It's not enough to count heads; a census must also stipulate *where* the people are who are being counted (and of course, be sure it doesn't miss anyone or count the same person twice). In more sedate days in a smaller United States, special maps, drawn by the Census Bureau for its enumerators, subdivided the country into counties, tracts, and blocks. These roving head-counters, who before 1960 visited every household in the nation, assigned individual houses to the appropriate census block as they tallied them.

But with the growth of the country, the need has increased for more efficient (i.e., cheaper) enumeration and more geographically detailed analysis. Door-to-door census taking was largely replaced by mail-out, mail-back forms in 1970, requiring massive address lists. These were matched to tables showing streets and ranges of addresses and their place in the Bureau's statistical areas.

Because the maps, addresses, and organization of statistical areas – each containing myriads of detail – were constructed independently, they often varied slightly, leaving room for discrepancies and errors. For the 1980 Census, the process was automated one more step with the GBF/DIME files (Geographic Base Files, or Dual Independent Map Encoding Files), which included geographic reference points in their list of addresses and

Continued on next page

Census's TIGER

Continued from previous page

areas. Using these reference points, a computer could assign additional addresses, as they became available, into the appropriate blocks. (The GBF/DIME files covered only the urbanized portions of Standard Metropolitan Statistical Areas.)

In 1981, thanks to modern advances in computer capability, the Bureau began to plan TIGER – a data base system directly founded on the coordinates of the U.S. Geographical Survey's 1:100,000 national map series. On top of the coordinates came the boundaries, both political and statistical, and within those the addresses of every household. Now, for the first time the different reference files that were previously required to conduct a census could be consolidated into one unified whole.

Data Cornucopia

A TIGER File (specifically, a TIGER/Line file) contains digital data for political boundaries, statistical area boundaries (such as census tracts and blocks), features (roads, railroads, rivers, etc.), feature names, and alternate feature names. It will also contain latitude/longitude coordinates for the boundaries. In addition, within metro areas, it will have address ranges and ZIP Codes for streets.

TIGER maps will contain the correct addresses in the right statistical areas. When questionnaires come in, their data will be geographically organized in the format of the TIGER Files. Besides greater accuracy in planning and conducting the census, TIGER will facilitate the generation of data reports from census results.

During 1989, prototype and precensus versions of TIGER/Line files will be released. Starting in April 1991, postcensus maps will start coming out. Sometime in late spring or early summer 1991 and continuing through the rest of the year, digital files will become available, starting with TIGER/Line files of the most up-to-date boundaries.

For further information on TIGER, contact the Data User Services Div., Bureau of the Census, Washington, D.C. 20233, Phone (301) 763-4100.

The World's Poorest 370 Million People

"Less developed countries" (LDCs) is a broad category, considering that these countries, as defined by the UN, encompass 77 percent of all the people in the world.

Avoiding controversy, the UN defines LDCs by geography – an LDC is a country located anywhere on earth but Europe, North America, the USSR, and Australia-New Zealand. Such a definition takes in a broad spectrum of countries ranging widely in their development and economic status, from booming nations in the developing world that might be termed, in 1980s' jargon, newly industrialized countries ("NICs") to those countries in the direst economic condition that the UN puts in the category "least developed."

What least developed countries? According to the UN's Population Division newsletter, there are 41 countries in this category. Their average per-capita gross national product is slightly over $200 as of 1985. (The wealthiest is Botswana, with $1,030; the poorest is Ethiopia, with $120.) They contain a total population of about 370 million, about 8 percent of the world total. The majority are in Africa, and just one (Haiti) is in the Western Hemisphere.

In general, these countries are also those that have not yet begun the demographic transition, the UN points out. "Indeed, the current rate of population growth of the least developed countries is quite similar to that of all developing countries during the later 1960s." Expectation of life is about what it was then, while total fertility is probably higher than it has ever been for all developing countries. In short, of all countries, the least developed ones have also been the ones least affected by the worldwide trends of demographic change.

Over the past 20 to 25 years, the total fertility rate (TFR) has fallen steadily in most of the rest of the less developed countries, from 5.9 lifetime children per woman in 1965-1970 to 4.0 in 1989. During that same period, fertility in the least developed countries has remained relatively high, at around 6.5.

Mortality conditions have improved in these countries, though they have not had the bump-up in life expectancy experienced by most other LDCs. In 1970-1975, life expectancy at birth averaged 44 years, a figure that rose to 47 years in 1980-1985. By the end of the century, the UN expects this to increase to 53 years.

In the LDCs as a whole, life expectancy was 58 years in 1980-1985, while in the more developed countries, it was 73. Hence the least developed countries are 10 years of life behind the LDCs as a whole, and about 25 years behind the industrialized countries.

Improvements in the least developed countries' infant mortality rates have been made. Nonetheless, most of this group of countries remain in the triple-digit area, i.e., there is at least one infant death for every 10 live births. Infant mortality rates for LDCs as a whole have improved more, averaging under 100 (for probably the first time in history) starting in the 1975-1980 period. Infant mortality for the industrialized world remains relatively low, at 16, due to widespread availability of health care and prenatal care.

Though fertility rates have yet to decline, these countries' perceptions of the growth rate has shown a shift from the time, some 15 years ago, when population growth was more widely regarded as satisfactory by the governments. Now, of the 41 countries, the *Population Newsletter* reports, 22 "view their rate of growth as too high. In addition, 16 of the 22 countries report interventions to lower their rates of growth. The 22 that view their rate of population growth as too high account for nearly two-thirds of the total population of the least developed countries."

Three countries in the group – Bhutan, Equatorial Guinea, and Laos – consider their growth rates too low. The remaining 16 countries find their growth rates to be satisfactory.

Although most governments in this

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SURVEY REPORT

Botswana

Situated below the equator in Africa, Botswana is bordered by South Africa, Namibia, and Zimbabwe. Largely desert, it is one of the continent's least densely populated countries, with only 1.3 million people. Nevertheless, the national government views Botswana's traditionally high fertility as detrimental to health goals, and since the 1970s has supported the integration of family planning with maternal and child health services.

The results of Botswana's 1988 Demographic and Health Survey (DHS), conducted under Westinghouse's Institute for Resource Development, indicate that fertility is continuing to drop. The preliminary results of the survey of 4,366 women aged 15 to 49 measured a total fertility rate (TFR) of 5.0 lifetime births per woman. If these stunning results hold up under further study, they would constitute a substantial decline over estimated TFRs of 7.0 in 1981 and 6.5 in 1984.

Increased contraceptive use is one explanation for the impressive fertility decline. The 1988 DHS showed that 30 percent of all women surveyed and 33 percent of women in union were using a contraceptive method at the time of the study. A 1984 fertility survey showed that 28 percent of women in unions – a figure almost as high – were using family planning, but there appears to have been a dramatic shift toward reliance on more effective methods in the second half of the 1980s. While only 19 percent of the married women used modern methods at the time of the 1984 survey, the DHS found that 32 percent of the married women, and 28 percent of all women were using a modern family planning method.

WHO/ Mattioli

Health of Botswana's children has been improved.

The pill accounted for about one-half of all contraceptive use, employed by 15 percent of the married women; 6 percent (each) used the IUD and injectable hormones; 5 percent were sterilized; 1 percent used other modern methods. Only 1.3 percent reported using a traditional method, a sharp contrast to 10 percent in 1984.

The growing acceptance of family planning among women is a testimony to the success of the government-sponsored services and educational outreach efforts which include home visits, community meetings, and mass media campaigns. Knowledge of family planning has also increased, from 78 percent of all women in 1984 to 95 percent in 1988. Most women obtained their contraceptives from a government health facility, underscoring the strong government role in serving this largely rural population.

The survey also revealed that two out of three women currently in union wanted to cease or delay having more children, and are potential users of family planning.

The preliminary report also presented data about pre- and postnatal maternal health care, teenage pregnancy, and the health status of young children. Only about 10 percent of the children under age 5 had experienced diarrhea in the 2 weeks preceding the survey. About 66 percent of these ill children had been treated with Oral Rehydration Therapy, a very high percentage compared with the DHS results from other African countries.

The final report will include more detailed data on fertility and family planning as well as information on breastfeeding, the awareness of AIDS, and the women's background characteristics.

– *M.K.*

DEMOGRAPHER'S PAGE

Second Thoughts on the Second Child: A Talk with Peng Peiyun

by H. Yuan Tien

Peng Peiyun is not yet a household name in the People's Republic of China. But because of her position, she is a presence in the households of many hundreds of millions of Chinese. She is the fourth person to head the National Family Planning Commission during the 1980s.

On Dec. 31, 1988, Madame Peng graciously came to see me at the Beijing University Guest House at 9 a.m. Sipping occasionally on the cup of tea that I had poured, she talked more than 90 minutes about her first year in office.

The Commission was reconstituted and elevated to cabinet status in 1981. A reduction of some 50 percent in the birth rate had already occurred, distinguishing the 1970s as China's greatest decade of population planning success. The 1980s, however, have turned out to be a decade of population planning controversies. Symptomatic of this has been the rapid turnover in the Commission's top leadership. The repercussions of the "one child per couple" policy, introduced in 1979, have proved major. Madame Peng's two immediate predecessors served in 1982-1983 and 1984-1987, respectively. Stringent directives on implementing the policy of minimal reproduction characterized the former period and caused dissension. The latter years saw growing exceptions according to local circumstances, as well as increased births. (For more on China's population and the one-child family, see this month's Take a Number, page 10, and Spotlight, page 12.) It thus was of enormous interest to learn directly from her about the state of China's population planning affairs.

Born in 1929, Madame Peng came from Hunan province. Having graduated with a major in sociology from Qing Hua University, she was assigned to work in the campus branch of the party at Beijing University. Her career shifted to the Science and Technology Commission in the 1970s and then to the Education Commission headed by Mr. Li Peng, the current Premier. Madame Peng was selected because, as she related, Mr. Li deemed it important to place a person with substantial experience in education in charge of the Family Planning Commission. Her elevation was to emphasize education in implementing population planning programs.

Some Second Thoughts

The demographic education of China's policymakers that began in the 1950s eventually produced, after fiery exchanges, a national consensus more than a decade later. What may be termed China's Strategic Demographic Initiative ensued. Vigorous and varied efforts in the 1970s swiftly depressed the birth rate to below 20 per 1,000 population. The "one child per couple" policy was then inaugurated with fanfare. A great leap in aim was involved: this move would beget a much smaller population in the long run, serving to turn back the population clock. In the short run, it would keep the total 2000 population from exceeding 1.2 billion.

Such quantitatively exact tactics and goals, however, proved to be too rapid for acceptance at the provincial and grass-roots levels. Strong doubt has persisted over the feasibility of limiting the century-end population to 1.2 billion. Loud concerns have been voiced about the immediate and eventual consequences of the "one child per couple" drive.

Madame Peng readily acknowledged the existence and scope of these controversies, as well as the resistance encountered in dissuading couples from having a second child. In macroeconomic terms, she accepted the premises of the proponents of the "one child" policy, and reiterated that, given the country's demographic base, population control is both imperative and correct. On the other hand, the plethora of second thoughts on the second child articulated by many in China since 1979 have also influenced her appreciation of the realities. Their impact has also been much reinforced in the course of her touring 10 provinces during this past year.

Xinhua News Agency

Family planning's Peng

As Madame Peng tersely reflected: "Though peasant couples may not want 5 or 6 children, it is extremely difficult for them to heed the 'one child' limit." Their concerns for labor shortage and old age security are part and parcel of the realities amid economic underdevelopment and harsh living conditions in many regions. The underreporting of female first births has been and continues to be extensive in rural areas and underscores the widespread desire for male offspring. Besides outright defiance, Madame Peng alluded to the many devious ways in which couples have managed to have more than one child. Second births thus have actually been much more numerous

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than permitted

Madame Peng pointed to the more than a dozen categories of exemptions that have been allowed at the start and since have been added to the provincial regulations. Moreover, she declared, "In the countryside, couples will now be allowed a second chance after an appropriate interval should their first child be a girl." I asked whether some 48 percent of rural couples with only one child would thus be eligible as only a little over 50 percent of first births are usually boys. She answered in the affirmative.

This declaration formally confirms a continuous shift in the extent to which couples with one child are to have a second chance. In 1982, the stipulation was 5 percent. It was increased to 10 percent in 1984 and to 20 percent in 1986.[1] However, the leap upward to 48 percent is more apparent than real. Census and survey data in recent years consistently show that relative to first births, second births currently have actually been about 55-60 percent as numerous.[2] In actuality, therefore, many future second births will still exceed the raised limit. Nevertheless, the second thoughts on the second child have evidently moved policy guidelines closer to reality.

A National Family Planning Law?

China's Strategic Demographic Initiative has been and still is largely based on administrative directives and ad hoc local regulations. Whether and how to enact a national family planning law has long been under dispute. The controversy is mainly over what the ideal family size should be for the nation as a whole. Madame Peng observed that now, as in the recent past, some insist on one child while others call for two children. However, under the present circumstances, insisting on "one child" in a national law would only perpetuate the large nonobservance. On the other hand, she continued, official reference to "two children" would enhance the likelihood of still more third births. Using "1.5 births" is adequate for population projections, but makes no sense at the behavioral level.

Adding to the dilemma, she noted, are the implications of formally allowing a second birth when the first child is a girl. The practice contravenes the principle of gender equality. An official and unqualified endorsement, therefore, has been resisted by women's groups.

The situation thus far is, Madame Peng observed, hardly ripe for a national population planning law. Nor is it advisable to adopt uniform policy guidelines because the country is too vast and too diverse. Taking into account local conditions, therefore, some 16 provincial people's congresses up to now have adopted their own regulations. The process of codifying similar regulations is under way in the other 13 provinces, municipalities, and regions. All this breathes a greater stability into population planning programs.

> Rural couples with a daughter "will now be allowed a second chance"

Education

Family planning regulations such as those adopted by Tianjin Municipality in November 1988, provide for fines in the case of couples who have a second child without approval. The salience of these provisions is, in Madame Peng's view, very limited. The amount of fines is either too small to really hurt in the case of the relatively better-off couples or too large to be actually collectible in the case of the very poor. More important, she stressed, this confrontational approach harms the party tradition of striving to maintain unity with the people.

A much greater reliance, Madame Peng averred, must be placed on "education" in family planning activities. More systematic and comprehensive efforts should and would be made to convince the masses of the need to control population growth in macroeconomic terms. Science should also be popularized, and be part of more broad and more detailed programs to disseminate contraceptive knowledge. Sex education must also be strengthened, both among couples-to-be and teenagers.

The quality of family planning personnel at the local level, she lamented, leaves much to be desired, especially when the main approach lies in education rather than administrative fiats. At the national level, much more information is also needed to improve the quality of population decisions. Accordingly, within her one year in office, she established a National Committee of Consultants on Family Planning this past summer, that includes experts from the provinces and academia. She also most enthusiastically disclosed that just two days before our conversation, a major branch (China Population Information Center) of the National Family Planning Commission has been reorganized, and renamed China Population Information and Research Center.

As Madame Peng sees it, her twin tasks are to simultaneously implement population planning decisions issued in Beijing and enable tens of millions of couples at large to realize their fertility aspirations. The contradictions are deep and sharp. She deemed it imperative that they be overcome through education. She recognized that, no matter what, many a couple will not be dissuaded or deterred from having more than one or two children. As the level of fertility is generally lower in China's cities and better-off provinces along the coast, she stressed that only

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The World's Poorest

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group may want to reduce their countries' population growth, the youthful age structure typical of LDCs may prove an obstacle. In the least developed countries, some 45 percent of the population as of 1985 were children under 15. In addition, the dependency ratio – the ratio of those under 15 and over 60 to those in the working ages in between – has risen over the past three decades, due to continuing high fertility combined with improvements in life expectancy. Whereas this figure stood at 102 in 1950 (102 persons in the dependency group per 100 working-age persons), by 1985 it had risen to 113.

Source: Population Newsletter, No. 46, December 1988, issued by the Population Division, United Nations.

Population and Other Characteristics of the "Least Developed" Group of Countries

Country	1985 total pop. (thousands)	Pop. change 1980-1985 (percent)	Total fertility rate	Life exp. at birth (yrs.)	Infant mort.	1987 GNP per capita (US $)
Afganistan	14,519	–2.0	6.9	40.5	183	–
Bangladesh	101,147	2.7	6.2	48.6	128	160
Benin	4,050	3.0	7.0	44.0	120	300
Bhutan	1,362	1.8	5.5	45.9	139	150
Botswana	1,078	3.6	6.5	56.0	76	1,030
Burkina Faso	7,882	2.5	6.5	45.2	149	170
Burma	37,544	2.1	4.6	57.5	80	–
Burundi	4,721	2.8	6.4	46.5	124	240
Cape Verde	330	2.2	5.2	59.0	75	500
Central Afr. Republic	2,576	2.3	5.9	43.0	142	330
Chad	5,018	2.3	5.9	43.0	143	150
Comoros	444	3.0	6.1	50.0	88	380
Djibouti	350	3.1	6.6	45.0	132	–
Equatorial Guinea	392	2.2	5.7	44.0	137	–
Ethiopia	42,271	1.7	6.0	40.0	159	120
Gambia	745	3.0	6.5	41.0	154	220
Guinea	6,075	2.3	6.2	40.2	159	–
Guinea-Bissau	889	1.9	5.4	43.09	143	170
Haiti	5,922	1.8	5.0	52.7	128	360
Kiribati	64	1.6	–	–	–	480
Laos	3,594	2.3	6.2	46.0	122	160
Lesotho	1,538	2.8	5.8	53.4	111	360
Malawi	7,141	3.2	7.0	45.0	163	160
Maldives	183	3.3	–	–	–	300
Mali	8,082	2.8	6.7	42.5	180	200
Mauritania	1,766	2.6	6.5	44.0	137	440
Nepal	16,915	2.6	6.2	48.3	139	160
Niger	6,115	2.8	7.1	42.5	146	280
Rwanda	6,102	3.3	8.5	46.5	132	310
Sao Tome	97	2.7	–	–	–	280
Sierra Leone	3,665	2.3	6.5	39.0	166	300
Somalia	6,398	3.6	6.6	43.0	143	290
Sudan	21,818	3.1	6.6	47.8	118	330
Tanzania	22,751	3.7	7.1	51.0	115	220
Togo	2,960	3.0	6.1	50.5	102	300
Tuvalu	8	1.6	–	–	–	–
Uganda	15,491	3.3	6.9	49.0	112	260
Vanuatu	142	3.9	–	–	–	–
Western Samoa	163	1.0	–	–	–	560
Yemen, South	2,137	2.8	6.8	48.4	135	420
Yemen, North	6,888	2.8	7.1	48.4	130	580
Least Developed	371,335	2.4	6.2	47.1	133	
Less Developed	3,680,188	2.1	4.2	57.6	89	
More Developed	1,173,660	0.7	1.9	72.3	16	

Source: Population Newsletter, No. 46, December 1988 and *World Bank Atlas 1989*.

Demographer's Page

Continued from previous page

economic development and general improvement in living standards can help minimize the contradictions between national population planning goals and people's fertility aspirations.

Population in 2000?

"To keep the total population within 1.2 billion by the end of the century" was initially envisioned in China's Strategic Demographic Initiative. It then became one of holding it to "around 1.2 billion." Some have recently warned of the possibility of exceeding 1.28 billion.[1] Madame Peng envisioned a total population of 1.27 billion in the year 2000.

As of the end of the first quarter of 1989, the government has officially stated, China's population will have topped 1.1 billion.[2] The gains during the seven years since the census of 1982 thus will have amounted to some 92 million, or more than 13 million per year. Will then the current outlook on population size in 2000 be on the mark? If not, how much larger will the total probably be a dozen years from now?

Implicitly, the thrust of Madame Peng's assessment rests on an assumed average of more than one child (1.5 births, to be exact) per couple. Coincidentally, the average annual increase must not exceed 1.5 percent if the total population is to be no greater than 1.27 billion at the end of the century, as she has envisioned. However, women reaching the prime childbearing years, 20-34, will soon make up more than half of the women in the reproductive age, 15-49. The number of births during the next dozen years thus will be certainly greater than during the 1980s. More important, in view of the level of population planning accomplishments during the recent past, the likelihood of achieving an average of 1.5 births per couple is extremely uncertain. Now, as in the 1980s, China's TFR still hovers around 2.3. An average annual increase is most likely to be about 1.62 percent. All things considered, therefore, I mentioned to Madame Peng that, as I had previously calculated in

1983, the Chinese population will probably reach 1.35 billion in the year 2000.[5] She politely demurred, saying that through education, China can succeed in curbing population growth.

Still, a new chapter now is unfolding in China's Strategic Demographic Initiative. Its focus has already been redirected in recent months. The shift was made explicitly formal at a major "mobilization conference" on family planning work in Beijing in January.[6] The "one child" ideal, once ubiquitous in official releases, received no mention at all in the news report on the conference. Rather, the present efforts are to reduce (or, where possible, eliminate) births of third and higher parities and births among legally underage couples (15 percent and 10 percent, respectively, of some 25 million births in 1987).[7] The "one child" ideal thus may, in light of both the steady de-escalation in implementing it across the board and Madame Peng's comments, be said to have seen its day. The shift in tactics arising from the second thoughts on the second child has, at the very least, much attenuated its severity and controversial role in China's population program.

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2. *Communique on the Results of the 1988 National Fertility Sample Survey*, National Family Planning Commission, October 27, 1988.
3. China Economic, Technological, and Social Development Research Center, the State Council, *People's Daily* (Overseas Edition), September 6, 1988.
4. *People's Daily* (Overseas Edition), January 13, 1989.
5. H. Yuan Tien, *China: Demographic Billionaire*, Population Bulletin 1983 (2): 38.
6. *People's Daily* (Overseas Edition), January 13, 1989.
7. *Ibid.*

SOFTWHERE

Atlas*Graphics is a mapping program for personal computers which creates shaded or color-coded maps of any part of the world or of the U.S. (A zoom capability allows you to define any portion of a map as the map to be worked with.) The map can then be generated on a printer or plotter, even in color assuming your output device supports color.

Areas of the maps you create can be automatically coded by means of shading (crosshatching, etc.) or color, according to data ranges you select. You can also select boundaries or cities, include labels, and even "explode" specified regions for greater emphasis. Statistical data can be imported into the data base used with the map, or exported from it.

Atlas*Graphics (2.1) requires an IBM-compatible computer with at least 512K memory, a mono or color graphics adapter, and either two floppy drives or one floppy drive and a hard drive. Its price is $450. Contact: STSC, Inc., 2115 East Jefferson St., Rockville, Md. 20852; phone (301) 984-5123.

— *A.H.*

POPULATION UPDATE

Estimated United States Population:

As of December 1, 1988	247,443,000
As of December 1, 1987	245,041,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1029.

Estimated World Population:

As of February 1989	5,180,622,000
Annual growth	89,000,000

Estimated by extrapolation from the mid-1988 population on PRB's *World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: November 1988

	12 months ending with November					
	Number		Rate			
Item	1988	1987	1988	1987	1986	1985
Live births	3,897,000	3,812,000	15.9	15.7	15.5	15.8
Deaths	2,168,000	2,122,000	8.8	8.7	8.7	8.8
Natural increase	1,729,000	1,690,000	7.1	7.0	6.8	7.0
Marriages	2,386,000	2,421,000	9.7	10.0	9.9	10.2
Divorces	1,170,000	1,159,000	4.8	4.8	4.8	5.0
Infant deaths	38,500	37,800	9.9	9.9	10.5	10.5
Population base (in millions)			245.4	243.1	240.8	238.1

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.

Source: *Monthly Vital Statistics Report* (Vol. 37, No. 11) from the National Center for Health Statistics.

TAKE A NUMBER

Flap Over Chinese Data: It now appears that China may well exceed the target of a 1.2 billion population in 2000, a goal often quoted in official speeches and documents. Recent press reports on increases in the Chinese birth rate have pointed out that the rise is likely due to some relaxation in the family planning program as well as the large cohorts reaching childbearing age and an improving economy. (See this month's Demographer's Page and Spotlight.) The result has been a significant bulge in births – from some 18 million in 1984 to 22 million in 1986 to 25 million in 1987.

Nevertheless, press statements to the effect that China's birth rate is "out of control" are probably exaggerated. The rise in the total fertility rate (TFR) to about 2.5 lifetime births per woman in 1987 from 2.1 several years earlier is noteworthy, but fertility in China remains very low for a developing country. It is also doubtful that many Chinese officials ever expected *all* women to have just one child. (See this month's Demographer's Page, page 6.) Rather the commitment of many to do so was a major factor in lowering the national birth rate. A national TFR of 1.0 would lead to a population top-heavy with the aged as well, a fact realized by many Chinese. Further, the 1.2 billion figure for the year 2000 population was an oft-stated goal, but intended as a target for that year, not a stationary population size. It has long been recognized that the post-2000 population would easily grow to 1.5 billion or more. Another issue for China-watchers is the percent urban figure now being reported. The official data suggest a rapidly urbanizing population, from 21 percent in the 1982 Census to 47 percent in 1987, but this apparent increase is largely a result of redefinition of urban territory. Hopefully, the urban definition used in the country's 1990 Census will correct this confusing state of affairs.

Here and There ... Just in ... the latest results from the 1988 U.S. Presidential Election. Nobody was the de facto choice of 43 percent, as participation fell to 57 percent of the voting-age population, the first drop since 1976. Only 29 percent of voting-age Hispanics participated, compared to 52 percent for blacks and 59 for whites. ... 1987 household income rose to $25,990 in 1987, from $24,900 in 1986, but, this 4.4 percent rise was offset by inflation, resulting in no significant increase after all. Regionally, only the Northeast showed a rise in real income for the period. ... Official projections for Austria show a population of 6.0 million in 2050, down from 7.6 today.

– *C.H.*

ADDENDA

CLARIFICATION

In the article "AIDS Worldwide" (February 1989 *PT*), a statement appears to the effect that "it is believed" that all people who test positive to the HIV virus will develop the AIDS disease. But not enough time has elapsed for more than early studies of this important variable. The ultimate percentage of HIV-exposed persons who develop AIDS or the period of time involved remains a matter of continuing investigation.

This is the western extremity of the U.S.-Mexican border, as seen from Mexico. While the border itself runs for 1,933 miles, the border fence is 50 yards shorter. Note also the hole cut in the fence, presumably by someone who did not wish to walk around it.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St. N.W., Washington, D.C. 20005.

INDONESIA: The Transmigration Program in Perspective, a World Bank Country Study. Washington, D.C.: The World Bank, 1988. 227 pages. $17.95 paper. ISBN 0-8213-1092-5.

Since 1905, Indonesia has experienced a variety of resettlement, or transmigration, programs amounting to the world's largest voluntary, government-sponsored resettlement scheme. These programs were designed to move people from the overcrowded inner islands (Java, Madura, Bali, and Lombok) to the land-rich outer islands (Sumatra, Kalimantan, and Sulawesi) in hopes of making better use of both human and natural resources. Despite their long history, these programs did not move a significant number of people until the second five-year plan (1974-1979) and the scale increased dramatically during the third five-year plan (1979-1984). During that time the program resettled about 366,000 families, or 1.5 million people – constituting nearly three-quarters – of the all families resettled during the entire resettlement period. In addition, some 170,000 families moved without government assistance.

Plans for continuing a large transmigration program during the fourth five-year period were drastically reduced as part of budgetary response to declining oil revenues. The government of Indonesia also decided it was an appropriate time to make a detailed assessment of the successes and failures of transmigration before deciding whether to refund the program. This volume, prepared by the World Bank, is a report of that assessment which covers such topics as migrant welfare, economic and financial analysis, demographic impact, social and environmental considerations, and factors affecting the scale of the program in the future.

According to the report, "The fact that transmigrants move voluntarily to pioneer settlements involving considerable hardship attests to the economic pressures on poor farmers in Java and Bali and to the opportunities they perceive in the outer islands. The fact that farmers settled under the sponsored program were, on the whole, moved in a safe and orderly way is commendable. However, the scale and rate of acceleration of the program [in recent years] have also given rise to a number of problems in need of attention." The report offers a series of recommendations covering such areas as improving infrastructure in existing resettlement sites, taking the needs of spontaneous migrants into account, and addressing environmental concerns.

– Nancy Yinger

POPULATION GROWTH IN LATIN AMERICA AND U.S. NATIONAL SECURITY, edited by John Saunders. Winchester, Mass.: Allen & Unwin, 1986. 305 pages. $44.95 cloth. ISBN 0-04-497002-1.

Since 1950, population in Latin America has increased by 2½ times, while North America grew by 60 percent – both had populations of about 165 million in 1950. Even with slower growth in Latin America, its population will probably end up being twice as large as North America's before the two reach some form of population stabilization. Because of their geographic proximity and common economic and political ties, population trends in Latin America have major implications for the security interests of North America.

This theme was the focus of a recent conference at Mississippi State University's Center for International Security and Strategic Studies, and the papers presented at the meeting have been edited in this volume by John Saunders. It brings together expertise in demography, sociology, political science, international affairs, and related fields.

The papers are divided into two groups, one providing a demographic perspective and the other examining security dimensions. On the demographic side, Stycos reviews current and prospective population trends; Gendell examines the links between population growth and labor absorption; Diaz-Briquets and Macisco analyze emigration trends; Musgrove discusses the question of food supply; and Clinton looks at the extent to which population growth is eroding development efforts.

In the section on security, Howard and Ieda Wiarda's study links between demographic factors and internal unrest in Latin America; Mason examines the contribution of demographic factors to the current crisis in Central America; Papp links the labor absorption and food supply issues to U.S. security interests; Hayes provides a similar focus on economic questions; and Taylor discusses military regimes and miliary assistance.

Introductory papers by DeWitt and Saunders provide a thoughtful context for the reader to think through the complex issues involved. The volume provides no ready answers, but provides a broad range of experience and insight for those interested in the implications of Latin American population trends.

– Thomas W. Merrick

SPOTLIGHT

CHINA

Part II

Population (mid-1988 est.): 1,087 million
Land Area: 3,705,390 sq. miles
Births per 1,000 pop: 24
Deaths per 1,000 pop: 7
Rate of natural increase: 1.7 percent
Total fertility rate: 2.5 children per woman
Infant mortality rate: 44 deaths per 1,000 live births
Life expectancy: 66 years
GNP per capita (1986 est.) $300
Capital: Beijing

by Gwenda Brophy

The first installment of this two-part Spotlight focused on China's fertility history and present trends – mostly downward. This installment focuses on the family-planning policy to limit births to one child.

The one-child policy was promulgated in 1979. Couples pledging to have one child could receive monetary bonuses (in some places higher if the child were a girl), preferential treatment for housing, plot and grain allocation, health care, education, and job opportunities, with the precise value of the package varying substantially.

By 1981, 47.3 percent of births were first births, compared to 21 percent in 1970. First-birth percentages by area in 1981 ranged from almost 90 percent in Shanghai to 24 percent in Guizhou. In 1982, 37 percent of eligible couples had accepted the certificate, with provincial rates of acceptance ranging from 10 percent to 75 percent. The "One-Child Certificate Rate" among all married fecund women was 18 percent in 1985.

Couples' renouncement of the one-child pledge varied by province from less than 5 percent to 34 percent; 12.5 percent of holders who had had a girl renounced their pledge, compared to 6.7 percent who had had a boy.

Emphasis has long been placed on improving women's status. A 1950 law sought to prohibit infanticide, concubinage, child betrothal and promoted free and egalitarian marriage. Nevertheless, inequalities persist, and privileges accorded to one-child certificate children, who are more likely to be male, may inadvertently perpetuate inequality. A provision of the 1980 Marriage Law making daughters as well as sons responsible for old age support and the development of handicraft and sideline occupations in rural areas may increase perception of daughters as economic assets.

In one survey, son preference was less pronounced in rural nonfarm villages where women play a key role in small-scale factories. The phenomenon of slight daughter preference has even been noted in some municipalities.

Fertility may have declined, but the family remains a fundamentally important Chinese institution. Although the nuclear family is the dominant form, the three-generation family is still very common. Marriage remains popular and universal. The 1980 Marriage Law in effect relaxed the late marriage strictures of the 1970s, resulting in a marriage boom. Entry into marriage is pervasive: 4 percent are married by ages 15-19, 25 percent by age 20, and 88 percent by age 25.

Fertility is concentrated among women in the 20s, with urban fertility more compressed into a shorter age interval than is the case in rural areas. Breastfeeding durations range from 6 to 20 months with marked socioeconomic differentials.

In late 1982 and early 1983, there were campaigns encouraging abortion, sterilization, and IUD insertion, with the number of sterilizations per year shooting up from 5.1 million in 1982 to 20.8 million in 1983. As of 1983, the mix of contraceptive methods ranged as follows: 50 percent sterilization, 41 percent IUD, and 9 percent others.

From 1984 to 1985 the proportion of first births declined from 56 percent to 50 percent, with second births, rather than higher order ones, absorbing the increase, accompanying a widening of the conditions under which a couple could have a second child. The state's idea of "desired family size," however, may not jibe with that of the many Chinese who desire a small, but nonetheless more than one-child, family.

Cohorts born during the baby boom period in the 1960s are now in their childbearing period. That generational bulge, combined with a resurgence of early marriage and childbearing, has generated a bulge in births, from 18 million in 1984 to 22 million in 1986 and 25 million in 1987.

In 1986-1988, following a period of relative leniency, family planning policy became somewhat more stringent. Responsibility systems such as "goal management," in which couples together with multiple administrative levels must guarantee compliance with program objectives, are being emphasized. Improvement of grassroots programs has been deemed a priority and later marriage is again being advocated.

Simultaneously, several pilot programs permitting a second child after a substantial delay are being tested. As the TFR creeps up, there is inevitable tension between the desire to meet the population target of around 1.2 billion in 2000 and the pragmatism of achieving what is feasible, given the sociocultural realities of a changing yet still traditional China.

Gwenda Brophy recently completed an internship at PRB. She is currently a consultant at the Futures Group, Washington, D.C.

Part I of this Spotlight appeared in the March 1989 *PT*.